



Massachusetts Department of Environmental Protection Source Water Assessment and Protection (SWAP) Report For Schooner Pass Trustees Condominiums

What is SWAP?

The Source Water Assessment and Protection (SWAP) program, established under the federal Safe Drinking Water Act, requires every state to:

- ? Inventory land uses within the recharge areas of all public water supply sources;
- ? Assess the susceptibility of drinking water sources to contamination from these land uses; and
- ? Publicize the results to provide support for improved protection.

SWAP and Water Quality

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Prepared by the
Massachusetts Department of
Environmental Protection,
Bureau of Resource Protection,
Drinking Water Program

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Table 1: Public Water System (PWS) Information

PWS NAME	Schooner Pass Trustees Condominiums
PWS Address	Sandwich Road
City/Town	Bourne, Massachusetts
PWS ID Number	4036011
Local Contact	Robert Smith
Phone Number	(508) 759-9020

Groundwater Sources:

Well Name	Source ID#	Zone I (in feet)	IWPA (in feet)	Source Susceptibility
Well No. 1	4036011-01G	300	879	Moderate

Purchased Sources

Supplier Name	Purchase ID#
Bourne Water District	4036011-01P

Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential sources of contamination, including septic systems, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes:

1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attachments, including a Map of the Protection Areas

1. Description of the Water System

The drinking water supply well for Schooner Pass Trustees Condominiums is located southeast of the condominium development in the Town of Bourne. Well No. 1 has a Zone I radius of 300 feet and an Interim Wellhead Protection Area (IWPA) radius 879 feet. The wells are located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers (i.e. clay) that can prevent contaminant migration.

What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.
- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

Please refer to the attached map to view the boundaries of the Zone I and IWPA.

Water from the well is not treated before entering the distribution system. For current information on monitoring results, please contact the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report. Drinking water monitoring reporting data are also available on the web at <http://www.epa.gov/safewater/ccr1.html>.

Schooner Pass Trustees Condominiums also purchases some of its water from Bourne Water District. Please see the attached SWAP report for this purchased source provider.

Section 2: Land Uses in the Protection Areas

The land uses in the IWPA for Well No. 1 are mostly residential and athletic fields for a nearby school (refer to attached map for details). Much of the IWPA area is forested. Land uses and activities that are potential sources of contamination are listed in Table 2.

Key Land Uses and Protection Issues include:

1. Zone I
2. Residential Land Uses
3. Athletic Fields
4. Presence of Oil or Hazardous Material Contamination Site

The overall ranking of susceptibility to contamination for the system is high, based on the presence of at least one moderate threat land use within the water supply protection areas, as seen in Table 2.

1. Zone I – The Zone I for Well No. 1 is a circular area with a 300-foot radius that is centered at the wellhead. Massachusetts drinking water regulations (310 CMR 22.00) require public water suppliers to own the Zone I, or control the Zone I through a conservation restriction. Only water supply activities are allowed in the Zone I. The Zone I for Well No. 1 is controlled by the public water system through a lifetime lease of the property. Non-water-supply uses are not allowed within the Zone I.

Zone I Recommendations:

- ✓ Continue to prevent non-water supply activities/uses from occurring within the Zone I area.

2. Residential Land Uses – A portion of the IWPA area consists of residential land use. None of the areas have public sewers, therefore, all use on-site septic systems. If managed improperly, activities associated with residential areas can contribute to

Table 2: Table of Activities within the Water Supply Protection Areas

Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Athletic Fields	No	Yes	Moderate	Fertilizer and pesticide use
Residential – Septic Systems	No	Yes	Moderate	Educate residents on proper septic system operation and maintenance.
Residential – Lawn Care	No	Yes	Moderate	Educate residents on proper lawn care techniques.

* -For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - www.state.ma.us/dep/brp/dws/.

Glossary

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

IWPA: A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone I I. To determine IWPA radius, refer to the attached map.

Zone II: The primary recharge area defined by a hydrogeologic study.

Aquifer: An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

Hydrogeologic Barrier: An underground layer of impermeable material that resists penetration by water.

Recharge Area: The surface area that contributes water to a well.

drinking water contamination. Common potential sources of contamination include:

- **Septic Systems** – Improper disposal of household hazardous chemicals to septic systems is a potential source of contamination to the groundwater because septic systems lead to the ground. If septic systems fail or are not properly maintained they can be a potential source of microbial contamination. Fortunately, the septic systems within the IWPA are reportedly pumped out once every three years.
- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used in homes are potential sources of contamination.
- **Heating Oil Storage** - If managed improperly, Underground and Aboveground Storage Tanks (UST and AST) can be potential sources of contamination due to leaks or spills of the fuel oil they store. Fuel oil storage reportedly does not occur within the IWPA.
- **Stormwater** – Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents. Fortunately, stormwater drains within the IWPA reportedly discharge outside the IWPA.

Residential Land Use Recommendations:

- ✓ Educate residents on best management practices (BMPs) for protecting water supplies. Distribute the fact sheet “Residents Protect Drinking Water” available in the attachments and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMPs for common residential issues.
- ✓ Work with planners to control new residential developments in the water supply protection areas.
- ✓ Promote BMPs for stormwater management and pollution controls. Visit DEP’s web site for additional information and assistance at mass.gov/dep/brp/wm/nonpoint.htm.

3. Athletic Fields – The pesticides and fertilizers used for lawn care can be transported from the ground surface down into the aquifer with storm water and excess irrigation water. The over-application or improper storage and disposal of pesticides and fertilizers could result in contamination of the aquifer.

Recommendation:

- ✓ Inform the nearby school about the areas that are located within the IWPA of the

public water supply well and request that they use proper application procedures for, and minimize the use of, pesticides and fertilizers in those areas that are within the IWPA.

4. Presence of Oil or Hazardous Material Contamination Sites

– Based upon a DEP web site database query (<http://www.state.ma.us/dep/bwsc/sitelist.htm>), the IWPA area does not contain any Oil and/or Hazardous Material Release Sites. However, the IWPA abuts Massachusetts Military Reservation to the east which has multiple DEP Bureau of Waste Site Cleanup (BWSC) Release Tracking Numbers (RTNs) associated with it.

Oil or Hazardous Material Contamination Sites Recommendation:

- ✓ Monitor progress on any ongoing remedial action conducted for the known oil release sites that are in the vicinity of the IWPA.

Refer to Table 2 for a complete list of land uses. Identifying

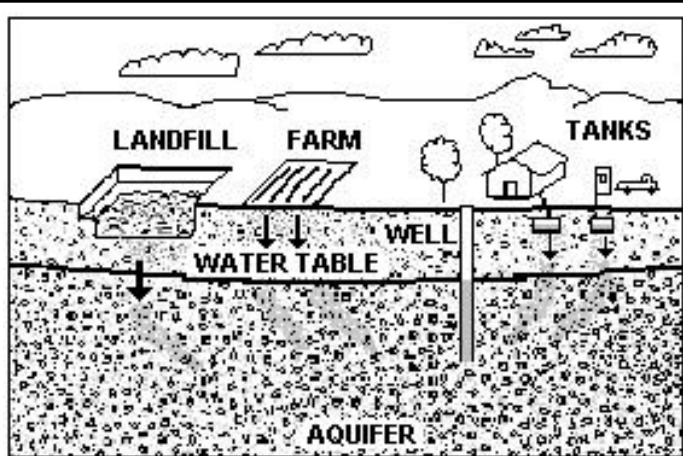


Figure 1: Example of how a well could become contaminated by different land uses and activities.

For More Information:

Contact Isabel Collins in DEP's Lakeville Office at (508) 946-2726 for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on the Drinking Water Program web site at:
www.state.ma.us/dep/brp/dws/

Additional Documents:

To help with source protection efforts, more information is available by request or online at www.state.ma.us/dep/brp/dws/, including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

Copies of this assessment have been made available to the public water supplier and town boards.

potential sources of contamination is an important initial step in protecting your drinking water sources. Further local investigation will provide more in-depth information and may identify new land uses and activities that are potential sources of contamination. Once potential sources of contamination are identified, specific recommendations like those below should be used to better protect your water supply.

3. Protection Recommendations

Implementing protection measures and best management practices (BMPs) will reduce the wells' susceptibility to contamination. Schooner Pass Trustees Condominiums is commended for current protection measures including:

- Effectively controlling the Zone I area so that non-water supply activities are excluded from the Zone I.
- Having a formal Emergency Response Plan for dealing with oil/hazardous material spills or other emergencies.
- Providing wellhead protection education material to the residents within the IWPA.

Schooner Pass Trustees Condominiums should review and adopt the key recommendations above and the following:

Zone I:

- ✓ Continue to prevent non-water supply activities from occurring within the Zone I.

Planning:

- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a land use inventory to assist in setting priorities, focusing inspections, and creating educational activities.

These recommendations are only part of your ongoing local drinking water source protection. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

4. Attachments

- Map of the Public Water Supply (PWS) Protection Area
- SWAP Report for Bourne Water District
- Recommended Source Protection Measures Factsheet
- Your Septic System Brochure
- Pesticide Use Factsheet